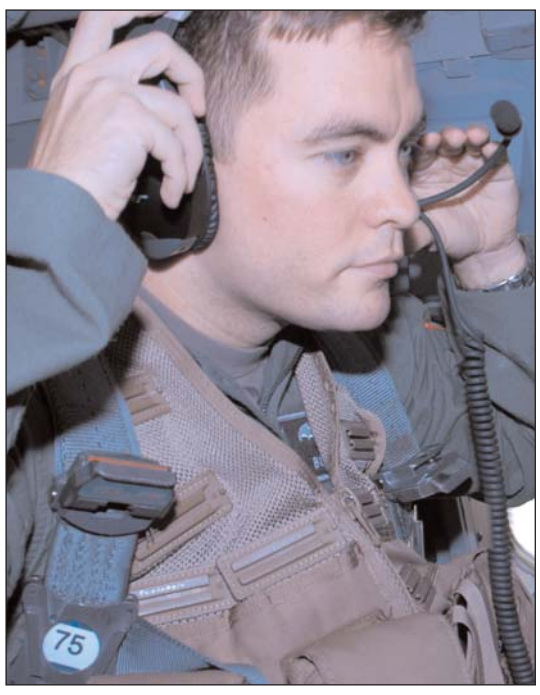
Courtesy photo

**Capt. Jason Register, 9th Bomb Squadron B-1 weapons systems officer, sits in the offensive systems seat as he and his crew pass 10,000 feet while flying in an Operation Enduring Freedom mission. He conducts a bomb steer check, where he creates a target and enables it but keeps the systems "safed." The procedure allows him to make sure the aircraft will assign the specific weapon he has chosen and target the specific area.**



2nd Lt. Elizabeth Campanile

**Capt. Bill Hall, 9th Bomb Squadron B-1 weapons systems officer, puts on his headset to prepare for a routine mission.**

# Triple-threat WSOs:

## Navigator, bombardier, defender in one

**By 2nd Lt. Elizabeth Campanile**
*Dyess Public Affairs*

Most people who haven't had the opportunity to really see what a B-1 weapons systems officer's job comprises think B-1 WSOs simply navigate.

What most people don't know is that while B-1 WSOs are navigators, their jobs incorporate much more than just navigating, said Capt. Jason Register, 9th Bomb Squadron B-1 weapons systems officer.

"When people ask what I do, they are probably only familiar with what navigators or bombardiers do. I tell them I'm a B-1 weapons systems officer, and then I have to explain to them what I do."

Aside from being a part of the "backbone" in America's long-range bomber force, B-1 WSOs have a uniquely challenging job because they are dual-seat qualified, said Captain Register.

The multi-role, long-range bomber, which was first delivered in 1985 and had its first combat experience during 1998's Operation Desert Fox in Iraq, operates by a team of four: pilot, copilot, and two weapons systems officers.

While B-1 WSOs have one job title, they are dually trained as offensive systems officers and defensive systems officers. It takes two WSOs, one for offensive systems and one for defensive systems, in the crew of four to fly and accomplish the mission of the B-1.

"What makes a WSO stand apart from being a navigator is as an offensive systems officer, we're responsible for dropping bombs, navigation and timing, and as a defensive systems officer, we're responsible for defending the jet from any threats by using the defensive avionics system," Captain Register said. "So I may sit in the offensive seat one day, and the next day, in the defensive seat.

"Essentially, a WSO is a navigator, a bombardier and a gunner combined. All those things are put into one guy, the WSO. We don't have any guns to shoot, but we're defending the jet by using jamming techniques and expendables. All those jobs are basically condensed into one person, and WSOs are trained to do it all," he explained.

And there's nothing that could motivate a WSO more than doing what they are trained to do, Captain Register said. Our mission is summed up by the 7th Bomb Wing motto, "Mors Ab Alto," which is Latin for "Death From Above."

"'Mors Ab Alto' is what we're here for. If we're bringing death from above to the bad guys, then they're not killing our guys," said Captain Register.

> ***"I love my job. It's rewarding to work as a team to get bombs on target, and I wouldn't give it up for anything."***
>
> Capt. Jason Register
> *9th BS weapons systems officer*

Having recently returned from his first deployment, Captain Register has seen this motto applied in the field.

"On one mission, we got a call from a squad of Marines that was pinned down in a valley and engaged with (a group of enemies)," he said. "They were taking fire, and it was the most rewarding thing knowing we had an impact. While we didn't drop any bombs, our arrival on scene gave the enemy something to think about, and (the enemy) ended up disengaging," he said.

"Flying the B-1 is definitely a team effort," said Maj. Matt Glenn, 28th Bomb Squadron training flight instructor pilot.

"Both pilots and WSOs work together to accomplish the mission. Without one or the other, we can't put our bombs on target," said Major Glenn. "WSOs have the ultimate responsibility for target destination and weapons release."

A B-1 crew also relies on each other for redundant back ups. For instance, if the pilots have trouble seeing threats associated with terrain, WSOs use their radar to keep pilots informed and ready. If WSOs have trouble monitoring the weather, pilots can keep them updated because they have a visual advantage, said Major Glenn.

"There has to be a lot of coordination between the pilots and the WSOs, and we constantly back each other up," he said.

"I love my job. It's rewarding to work as a team to get bombs on target, and I wouldn't give it up for anything," Captain Register added. "It's all about making a difference for those guys on the ground."

Weapons systems officers, like other aviators, site their extensive training as credit for their effectiveness in the field. WSOs undergo about three years of training before they are considered mission qualified and operational.

The training for B-1 WSOs begins with about a year and a half of flight school at the Pensacola Naval Air Station, Fla. They then complete combat survival school at Fairchild Air Force Base, Wash. The B-1 navigation students then progress onto five months of electronic warfare officer school at Randolph Air Force Base, Texas, before arriving at the "hub" of B-1 testing and training.

"For WSOs, Dyess is considered the hub of B-1 training," said Major Glenn. Students spend about six months completing initial training at the 28th Bomb Squadron before they become mission qualified.

Even after training is complete, WSOs maintain a rigorous flying schedule to perfect their specialized skills as navigator-bombardier-gunner officers.

"There's a lot more to being a B-1 weapons systems officer than meets the eye," said Captain Register. "It's definitely a challenging job; at the same time it's worth it--it's a blast."

Courtesy photo

**Maj. Gordon Pfeil, 9th Bomb Squadron B-1 weapons systems officer, checks his panels during a combat sortie while deployed in support of operations Enduring Freedom and Iraqi Freedom. During regular missions, B-1 crews may fly 16 or more hours while strapped in about 40 pounds of gear. Since the two windows in the WSO area are about a fourth of the size of a computer monitor, WSOs rely heavily on their radar to maintain their orientation.**

## B-1 BOMBER CHARACTERISTICS

**Primary function:** Long-range, multi-role heavy bomber
**Builder:** Boeing, North America
**Power Plant:** Four General Electric F-101-GE-102 turbofan engine with afterburner
**Thrust:** 30,000-plus pounds with afterburner, per engine
**Length:** 146 feet
**Wingspan:** 137 feet extended forward, 79 feet swept aft
**Height:** 34 feet
**Weight:** Empty, approximately 190,000 pounds
**Maximum Takeoff Weight:** 477,000 pounds
**Speed:** 900 mph-plus (Mach 1.2 at sea level)
**Range:** Intercontinental, unrefueled
**Ceiling:** More than 30,000 feet
**Crew:** Four
**Armament:** Satellite-guided precision bombs, general purpose bombs, anti-ship naval mines, general purpose cluster munitions including the Wind Corrected Munitions Dispenser, Joint Standoff Weapon and Joint Air to Surface Standoff Missile
**Date Deployed:** June 1985
**Unit Cost:** $283.1 million
**Inventory:** Active force, 67; Air National Guard, 0; Reserve, 0
*(Facts courtesy of the Federation of American Scientists)*